

CLAIMS

1. A blue soda-lime colored glass composed of glass-forming principal components and of coloring agents, characterized in that it comprises from 0.15 to 1.1% by weight of Fe_2O_3 , has a redox factor not exceeding 45% and presents a dominant wavelength (λ_D) of between 490 and 493 nm and a light transmission (TLA4) and an excitation purity (P) which satisfy the relationship $P > -0.3 \times \text{TLA4} + 24.5$.
2. The colored glass as claimed in claim 1, characterized in that it has a light transmission (TLA4) of greater than or equal to 55%.
3. The colored glass as claimed in either of claims 1 and 2, characterized in that it has a light transmission (TLA4) and an excitation purity (P) which satisfy the relationship $P > -0.3 \times \text{TLA4} + 26.5$.
4. The colored glass as claimed in any one of claims 1 to 3, characterized in that it has a dominant wavelength (λ_D) of less than or equal to 492 nm.
5. The colored glass as claimed in any one of claims 1 to 4, characterized in that it has a dominant wavelength (λ_D) of greater than or equal to 491 nm.
6. The colored glass as claimed in any one of claims 1 to 5, characterized in that it includes, as coloring agents, a compound of at least one of the elements Cr, Ce, Co, Se, V, Ti, Mn.
7. The colored glass as claimed in any one of claims 1 to 6, characterized in that it comprises amongst its coloring agents less than 0.1% by weight of TiO_2 .
8. The colored glass as claimed in any one of claims 1 to 7, characterized in that it comprises less than 0.5% by weight of CeO_2 .
9. The colored glass as claimed in any one of claims 1 to 8, characterized in that it comprises less than 0.13% by weight of MnO_2 .

10. The colored glass as claimed in any one of claims 1 to 9, characterized in that it comprises the following percentages by weight of coloring agents, the total amount of iron being expressed in the form of

5 Fe₂O₃:

Fe ₂ O ₃	0.3 - 1.1%
FeO	0.10 - 0.30%
Co	0 - 0.0040%
Cr ₂ O ₃	0 - 0.0500%
V ₂ O ₅	0 - 0.0500%

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and has the following optical properties:

55% < TLA4 < 85%

36% < TE4 < 60%

P < 12%.

15 11. The colored glass as claimed in any one of claims 1 to 10, characterized in that it has a light transmission (TLA4) of greater than or equal to 70%.

12. The colored glass as claimed in claim 10, characterized in that it comprises the following percentages by weight of coloring agents, the total amount of iron being expressed in the form of Fe₂O₃:

Fe ₂ O ₃	0.3 - 0.7%
FeO	0.10 - 0.20%
Co	0 - 0.0020%

25 and has the following optical properties:

72% < TLA4 < 85%

49% < TE4 < 60%

3% < P < 9%.

13. The colored glass as claimed in claim 12, characterized in that it comprises the following percentages by weight of coloring agents, the total amount of iron being expressed in the form of Fe₂O₃:

Fe ₂ O ₃	0.4 - 0.6%
FeO	0.11 - 0.16%
Co	0 - 0.0015%

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and has the following optical properties:

74% < TLA4 < 80%

51% < TE4 < 58%

$$3\% < P < 7\%$$

$$\lambda_D \leq 492 \text{ nm.}$$

14. The colored glass as claimed in claim 10, characterized in that it comprises the following percentages by weight of coloring agents, the total amount of iron being expressed in the form of Fe_2O_3 :

Fe_2O_3	0.4 - 0.8%
FeO	0.16 - 0.23%
Co	0 - 0.0030%

10 and has the following optical properties:

$$70\% < \text{TLA4} < 77\%$$

$$39\% < \text{TE4} < 50\%$$

$$4\% < P < 10\%.$$

15. The colored glass as claimed in claim 14, characterized in that it comprises the following percentages by weight of coloring agents, the total amount of iron being expressed in the form of Fe_2O_3 :

Fe_2O_3	0.55 - 0.75%
FeO	0.16 - 0.23%
Co	0 - 0.0020%

and has the following optical properties:

$$70\% < \text{TLA4} < 74\%$$

$$41\% < \text{TE4} < 48\%$$

$$6\% < P < 9\%$$

25 $\lambda_D \leq 492 \text{ nm.}$

16. The colored glass as claimed in claim 10, characterized in that it has a light transmission (TLA4) of less than 70%.

17. The colored glass as claimed in claim 16, characterized in that it comprises less than 0.01%, preferably less than 0.0050%, by weight of V_2O_5 and less than 0.0020%, preferably less than 0.0015%, by weight of Cr_2O_3 .

18. The colored glass as claimed in either of claims 16 and 17, characterized in that it comprises the following percentages by weight of coloring agents, the total amount of iron being expressed in the form of Fe_2O_3 :

Fe ₂ O ₃	0.6 - 1.1%
FeO	0.20 - 0.30%
Co	0 - 0.0040%

and has the following optical properties:

5 55% < TLA4 < 69%
 30% < TE4 < 47%
 6% < P < 12%.

19. The colored glass as claimed in claim 18,
characterized in that it comprises the following
10 percentages by weight of coloring agents, the total
amount of iron being expressed in the form of Fe₂O₃:

Fe ₂ O ₃	0.75 - 0.95%
FeO	0.22 - 0.28%
Co	0 - 0.0030%

15 and has the following optical properties:

 63% < TLA4 < 69%
 36% < TE4 < 45%
 7% < P < 11%
 $\lambda_D \leq 492$ nm.

20 20. The colored glass as claimed in any one of
claims 1 to 19, characterized in that it comprises less
than 1.0% by weight of Fe₂O₃.

21. The colored glass as claimed in any one of
claims 1 to 20, characterized in that it forms a motor-
25 vehicle window.